DB Name	Query	Hit Count	Set Name
USPT,JPAB,EPAB,DWPI,TDBD	L17 and (calcium cation)	1	L18
USPT,JPAB,EPAB,DWPI,TDBD	L16 and (crosslinking agent)	41	L17
USPT,JPAB,EPAB,DWPI,TDBD	L11 and (gelatin or alginate)	757	L16
USPT,JPAB,EPAB,DWPI,TDBD	L4 and L14	2	L15
USPT,JPAB,EPAB,DWPI,TDBD	(gene delivery) adj system	136	L14
USPT,JPAB,EPAB,DWPI,TDBD	L12 and (gelatin and alginate)	5	L13
USPT,JPAB,EPAB,DWPI,TDBD	L11 and L2 and L3	21	L12
USPT,JPAB,EPAB,DWPI,TDBD	coacervate	1309	L11
USPT,JPAB,EPAB,DWPI,TDBD	L9 and (intracellular delivery)	5	L10
USPT,JPAB,EPAB,DWPI,TDBD	L8 and (calcium)	92	L9
USPT,JPAB,EPAB,DWPI,TDBD	L5 and (crosslinking agent)	119	L8
USPT,JPAB,EPAB,DWPI,TDBD	L5 and (sustained release)	0	L7
USPT,JPAB,EPAB,DWPI,TDBD	L5 and (controlled release)	0	L6
USPT,JPAB,EPAB,DWPI,TDBD	L4 and (gelatin or alginate)	410	L5
USPT,JPAB,EPAB,DWPI,TDBD	L1 and L2 and L3	868	L4
USPT,JPAB,EPAB,DWPI,TDBD	(amphiphilic molecule) or (lipid) or (polylysine)	47531	L3
USPT,JPAB,EPAB,DWPI,TDBD	(nucleic acid)or (viral vector) or (recombinant virus)	55459	L2
USPT,JPAB,EPAB,DWPI,TDBD	(coacervate or microsphere)	15766	L1

```
 ### Status: Path 1 of [Dialog Information Services via Modem]

 ### Status: Initializing TCP/IP using (UseTelnetProto 1 ServiceID pto-dialog)
 Trying 3106900061...Open

 DIALOG INFORMATION SERVICES
 PLEASE LOGON:
  ******** HHHHHHHH SSSSSSSS?
 ### Status: Signing onto Dialog
  ********
 ENTER PASSWORD:
  ******** HHHHHHHH SSSSSSSS? ********
 Welcome to DIALOG
 ### Status: Connected


 Dialog level 00.05.02D

 Last logoff:  11jun00 10:11:08
 Logon file001 14jun00 15:01:51
 *** ANNOUNCEMENT ***
 NEW FILE RELEASED
 ***Prous Science Daily Essentials (Files 458, 459)
 ***WIPO/PCT Patents Fulltext (File 349)

 UPDATING RESUMED
 ***Bridge World Markets News (File 609,809)
 ***Fort Worth Star-Telegram (File 427)
 ***Federal News Service (File 660)
 ***Kansas City Star (File 147)

                              ***
 RELOADED
 ***Books in Print (File 470)
 ***Kompass Asia/Pacific  (File 592)

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      >>> Enter BEGIN HOMEBASE for Dialog Announcements <<<
      >>>    of new databases, price changes, etc.      <<<
                    ****
KWIC is set to 50.
HILIGHT set on as '*'

File   1:ERIC  1966-2000/May
       (c) format only 2000 The Dialog Corporation
*File   1: File has been reloaded. See HELP NEWS 1.

      Set  Items  Description
      ---  -----  -----------
?b 155, 5, 73
       14jun00 15:02:11 User259876 Session D71.1
            $0.67    0.192 DialUnits File1
     $0.67  Estimated cost File1
     $0.02  TYMNET
     $0.69  Estimated cost this search
     $0.69  Estimated total session cost   0.192 DialUnits
```

```
SYSTEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R)  1966-2000/Aug W1
        (c) format only 2000 Dialog Corporation
*File 155: MEDLINE has been reloaded. Accession numbers have changed.
  File   5:Biosis Previews(R)  1969-2000/Jun W3
        (c) 2000 BIOSIS
  File  73:EMBASE  1974-2000/May W1
        (c) 2000 Elsevier Science B.V.
*File  73: New drug links added. See Help News73.

      Set  Items  Description
      ---  -----  -----------
?s (coacervate)
      S1     407  (COACERVATE)
?s (viral (w) vector?) or (recombinant (w) virus)
          479688  VIRAL
          209272  VECTOR?
            2463  VIRAL(W)VECTOR?
          372465  RECOMBINANT
          980674  VIRUS
            4323  RECOMBINANT(W)VIRUS
      S2    6691  (VIRAL (W) VECTOR?) OR (RECOMBINANT (W) VIRUS)
?s s1 and s2
             407  S1
            6691  S2
      S3       0  S1 AND S2
?s (coacervate?)
      S4     561  (COACERVATE?)
?s s4 and s2
             561  S4
            6691  S2
      S5       0  S4 AND S2
?s (microsphere?)
      S6   38990  (MICROSPHERE?)
?s s6 and s2
           38990  S6
            6691  S2
      S7      11  S6 AND S2
?rd
...completed examining records
      S8       8  RD (unique items)
?t s8/3,k/all

 8/3,K/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2000 Dialog Corporation. All rts. reserv.

09646617   97174234
 Hepatic drug delivery and gene therapy.
  Zern MA; Kresina TF
  Department of Medicine, Thomas Jefferson University, Philadelphia, PA
19107, USA.
  Hepatology (UNITED STATES)  Feb 1997,  25 (2) p484-91,  ISSN 0270-9139
Journal Code: GBZ
  Languages: ENGLISH
  Document type: CONGRESSES

  ... summary focuses on the new technologies and the studies directly
pertaining to liver disease. Table 1 lists the techniques and their
applications. Table 2 describes *viral* *vectors* that have been employed
for the purpose of hepatic gene therapy. Table 3 summarizes the studies
presented as posters at the conference.
  ; DNA Repair; Genetic Vectors; Hepatitis, Viral, Human--Therapy--TH;
Liposomes;  Liver--Cytology--CY;  Liver Diseases--Drug Therapy--DT;
*Microspheres*; Prodrugs--Therapeutic Use--TU; Retroviridae--Genetics--GE;
Stem Cells
```

8/3,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09314735 98020865
Routes of immunization and antigen delivery systems for optimal mucosal immune responses in humans.
Mestecky J; Michalek SM; Moldoveanu Z; Russell MW
Department of Microbiology, Medicine, and Oral Biology, University of Alabama at Birmingham 35294, USA.
Behring Institute Mitteilungen (GERMANY) Feb 1997, (98) p33-43, ISSN 0301-0457 Journal Code: 9KI
Contract/Grant No.: AI28147, AI, NIAID; DE06746, DE, NIDCR; DE08182, DE, NIDCR; +
Languages: ENGLISH
Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL

... induction of immune responses at a desired mucosal site can be accentuated with the use of a suitable antigen-delivery system including relevant bacterial or *viral* *vectors* , edible transgenic plants expressing microbial antigens, incorporation of antigens in biodegradable *microspheres* or liposomes, and linkage or coadministration of antigens with cholera toxin B subunit. However, only a few antigen-delivery systems extensively used in animal experimentation...

8/3,K/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09000694 96262570
Identification of biotinylated molecules using a baculovirus-expressed luciferase-streptavidin fusion protein.
Karp M; Lindqvist C; Nissinen R; Wahlbeck S; Akerman K; Oker-Blom C
University of Turku, Finland.
BioTechniques (UNITED STATES) Mar 1996, 20 (3) p452-6, 458-9, ISSN 0736-6205 Journal Code: AN3
Languages: ENGLISH
Document type: JOURNAL ARTICLE

... Sf9 insect cell line using the baculovirus expression vector system (BEVS). Sodium dodecyl sulfate polyacrylamide gel electrophoresis of the proteins from cells infected with the *recombinant* *virus* , VL1393-LucGR-StreptAv, revealed that the fusion protein migrated with an apparent molecular weight of 75 kDa. Light emission measurements showed that the infected cells...
; Bacterial Proteins--Biosynthesis--BI; Base Sequence; Biotin--Metabolism --ME; Cell Line; Electrophoresis, Polyacrylamide Gel--Methods--MT; Genetic Vectors--Genetics--GE; Luciferase--Biosynthesis--BI; Luminescence; *Microspheres*; Molecular Sequence Data; Molecular Weight; Recombinant Fusion Proteins--Genetics--GE; Recombinant Fusion Proteins--Isolation and Purification--IP; Recombinant Fusion Proteins--Metabolism--ME; Spodoptera --Cytology--CY

8/3,K/4 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07868281 94100201
Anatomic barriers influence the distribution of in vivo gene transfer into the arterial wall. Modeling with microscopic tracer particles and verification with a recombinant adenoviral vector.
Rome JJ; Shayani V; Flugelman MY; Newman KD; Farb A; Virmani R; Dichek DA

Molecular Hematology Branch, National Heart, Lung, and Blood Institute, Bethesda, Md 20892.
Arteriosclerosis and thrombosis (UNITED STATES) Jan 1994, 14 (1) p148-61, ISSN 1049-8834 Journal Code: AZ1
Languages: ENGLISH
Document type: JOURNAL ARTICLE

... catheter technique with infusion pressures of 100 to 400 mm Hg was used to infuse microscopic tracer particles of the size range of liposomes and *viral* *vectors* into normal elastic arteries of sheep. Localization of the tracer particles in tissue sections by light, fluorescence, and electron microscopy suggested that vector-sized particles...
Descriptors: Adenoviridae--Genetics--GE; *Arteries--Anatomy and Histology --AH; *Arteries--Metabolism--ME; *Gene Transfer; *Genetic Vectors; * *Microspheres*

8/3,K/5 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09513233 BIOSIS NO.: 199497521603
Mucosal immunity to infection with implications for vaccine development.
AUTHOR: Staats Herman F(a); Jackson Raymond J; Marinaro Mariarosaria; Takahashi Ichiro; Kiyono Hiroshi; McGhee Jerry R
AUTHOR ADDRESS: (a)Box 3307, Duke University Med. Cent., Durham, NC 27710** USA
JOURNAL: Current Opinion in Immunology 6 (4):p572-583 1994
ISSN: 0952-7915
DOCUMENT TYPE: Literature Review
RECORD TYPE: Citation
LANGUAGE: English

MISCELLANEOUS TERMS: ...ATTENUATED *RECOMBINANT* *VIRUS* VECTORS...

...*MICROSPHERES*;

8/3,K/6 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

07864544 EMBASE No: 1999344924
Poly-L-lysine improves gene transfer with adenovirus formulated in PLGA *microspheres*
Matthews C.B.; Jenkins G.; Hilfinger J.M.; Davidson B.L.
B.L. Davidson, 200 EMRB, University of Iowa, College of Medicine, Iowa City, IA 52242 United States
Gene Therapy (GENE THER.) (United Kingdom) 1999, 6/9 (1558-1564)
CODEN: GETHE ISSN: 0969-7128
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 34

Poly-L-lysine improves gene transfer with adenovirus formulated in PLGA *microspheres*

...as poly-lactic-glycolic acid (PLGA), polyethylene glycol (PEG), or lipids, may shield the virus from inhibition by neutralizing antibodies. Formulation of adenovirus in PLGA *microspheres* allowed for extended release in vitro. In experiments described here, we found that the surfactant used in the formation of the primary emulsion could significantly...
...lysine to adenovirus before encapsulation with PLGA. Our results show that although PLL did not effect the yield of virus encapsulated or released from the *microspheres*, it significantly improved the efficiency

of gene transfer after release from the polymer.
DRUG DESCRIPTORS:
*polylysine; **microsphere*; *polyglactin
MEDICAL DESCRIPTORS:
gene therapy; immunogenicity; virus *recombinant*; *virus* inhibition; emulsion; human; controlled study; human cell; article; priority journal

8/3,K/7 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

07452475 EMBASE No: 1998373128
The prospects of hepatic drug delivery and gene therapy
Wu J.; Wu G.Y.; Zern M.A.
J. Wu, College Building, Jefferson Medical College, 1025 Walnut Street, Philadelphia, PA 19107-5083 United States
AUTHOR EMAIL: wu5@jeflin.tju.edu
Expert Opinion on Investigational Drugs (EXPERT OPIN. INVEST. DRUGS) (United Kingdom) 1998, 7/11 (1795-1817)
CODEN: EOIDE ISSN: 1354-3784
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 130

...been designed and further modified for selective targeting of therapeutics to the liver. The targeting properties and strategies of commonly used agents, such as liposomes, *microspheres* and recombinant chylomicrons, are discussed. Viral and non-*viral* *vectors*, such as cationic liposomes, reconstituted chylomicron remnants, adenoviruses, adeno-associated viruses, retroviruses, and SV-40, are currently being evaluated for the delivery of DNA to...
DRUG DESCRIPTORS:
chylomicron; liposome; *microsphere*; ribozyme

8/3,K/8 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE

06930481 EMBASE No: 1997214960
Extended release of adenovirus from polymer *microspheres*: Potential use in gene therapy for brain tumors
Beer S.J.; Hilfinger J.M.; Davidson B.L.
B.L. Davidson, Department of Internal Medicine, University Iowa College of Medicine, Iowa City, IA 52242 United States
Advanced Drug Delivery Reviews (ADV. DRUG DELIV. REV.) (Netherlands) 1997, 27/1 (59-66)
CODEN: ADDRE ISSN: 0169-409X
PUBLISHER ITEM IDENTIFIER: S0169409X97000227
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 69

Extended release of adenovirus from polymer *microspheres*: Potential use in gene therapy for brain tumors

...efficiency coupled to low dose administration are desirable. To accomplish low dose administration we have developed a method to formulate recombinant adenoviral vectors in biodegradable *microspheres*. Poly (lactic-glycolic) acid (PLGA) *microspheres* containing recombinant adenovirus were prepared using a double emulsion technique, and viable virus released for greater than 10 days.
DRUG DESCRIPTORS:
**microsphere*--pharmaceutics--pr
MEDICAL DESCRIPTORS:

...trial; cytotoxicity; emulsion; gene transfer; glioma--therapy--th; human ; immune response; immunostimulation; inflammation; microencapsulation; morbidity; mortality; nonhuman; priority journal; retrovirus; review; technique; virus infection; virus *recombinant*; *virus* vector
?ds

Set	Items	Description
S1	407	(COACERVATE)
S2	6691	(VIRAL (W) VECTOR?) OR (RECOMBINANT (W) VIRUS)
S3	0	S1 AND S2
S4	561	(COACERVATE?)
S5	0	S4 AND S2
S6	38990	(MICROSPHERE?)
S7	11	S6 AND S2
S8	8	RD (unique items)

?s (gelatin and alginate)

	25804	GELATIN
	9402	ALGINATE
S9	185	(GELATIN AND ALGINATE)

?s s6 and s9

	38990	S6
	185	S9
S10	16	S6 AND S9

?s s10 and (calcium)

	16	S10
	807098	CALCIUM
S11	7	S10 AND (CALCIUM)

?rd
...completed examining records

S12	5	RD (unique items)

?t s12/3,k/all

12/3,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09910418 99210253
Coacervate *microspheres* as carriers of recombinant adenoviruses.
Kalyanasundaram S; Feinstein S; Nicholson JP; Leong KW; Garver RI Jr
Department of Biomedical Engineering, Johns Hopkins University, Baltimore, Maryland 21205, USA.
Cancer gene therapy (UNITED STATES) Mar-Apr 1999, 6 (2) p107-12, ISSN 0929-1903 Journal Code: CE3
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Coacervate *microspheres* as carriers of recombinant adenoviruses.
... bolus administration, both of which limit the efficiency of target tissue infection. As a first step toward overcoming these limitations, rAds were encapsulated in coacervate *microspheres* comprised of *gelatin* and *alginate* followed by stabilization with *calcium* ions. Ultrastructural evaluation showed that the *microspheres* formed in this manner were 0.8-10 microM in diameter, with viruses evenly distributed. The *microspheres* achieved a sustained release of adenovirus with a nominal loss of bioactivity. The pattern of release and the total amount of virus released was modified by changes in *microsphere* formulation. Administration of the adenovirus-containing *microspheres* to human tumor nodules engrafted in mice showed that the viral transgene was transferred to the tumor cells. It is concluded that coacervate *microspheres* can be used to encapsulate bioactive rAd and release it in a time-dependent manner.
Descriptors: Adenoviridae--Genetics--GE; *Gene Therapy--Methods--MT; * *Microspheres*; *Calcium*--Pharmacology--PD; Cytomegalovirus--Metabolism --ME; Dose-Response Relationship, Drug; Genetic Vectors; Luciferase --Metabolism--ME; Lung Neoplasms--Therapy--TH; Mice; Mice, Nude; Microscopy, Confocal; Microscopy, Electron...
Chemical Name: Luciferase; (Genetic Vectors; (*Calcium*

12/3,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08376181 95391606
Polymer-coated *gelatin* capsules as oral delivery devices and their gastrointestinal tract behaviour in humans.
Narayani R; Rao KP
Biomaterials Department, Central Leather Research Institute, Adyar, Madras, India.
Journal of biomaterials science. Polymer edition (NETHERLANDS) 1995, 7 (1) p39-48, ISSN 0920-5063 Journal Code: AY7
Languages: ENGLISH
Document type: CLINICAL TRIAL; CONTROLLED CLINICAL TRIAL; JOURNAL ARTICLE

Polymer-coated *gelatin* capsules as oral delivery devices and their gastrointestinal tract behaviour in humans.
In oral delivery of protein and peptide drugs there is a great need for suitable devices for delivering the therapeutic agent-incorporated *microspheres* selectively in the intestine. It is essential that the drug-loaded multiple unit carrier system should be protected from the harsh environment of the stomach and deliver the carrier system in the large intestine where drug action or absorption is desired. *Gelatin* capsules were coated with various concentrations of sodium *alginate* and cross-linked with appropriate concentrations of *calcium* chloride and tested in vitro for resistance to gastric and intestinal medium. *Gelatin* capsules coated with 20% w/v of the polymer which gave the most promising result in vitro were evaluated in human volunteers for their in vivo gastro intestinal tract behaviour. The radiographical studies show that while the uncoated *gelatin* capsules disintegrated in the stomach within 15 min of ingestion, the *alginate* coated *gelatin* capsules remained intact as long as they were retained in the stomach (up to 3 h) and then migrated to the ileocecal region of the...
Descriptors: Alginates--Chemistry--CH; *Barium Sulfate--Administration and Dosage--AD; *Drug Delivery Systems; *Gastrointestinal System --Metabolism--ME; **Gelatin*--Chemistry--CH; Administration, Oral; Adult; Alginates--Metabolism--ME; Barium Sulfate--Pharmacokinetics--PK; Biocompatible Materials--Metabolism--ME; *Calcium* Chloride--Chemistry--CH; Capsules --Standards--ST; Cross-Linking Reagents; Delayed-Action Preparations; Drug Carriers; Intestinal Absorption--Physiology--PH; Intestine, Large --Metabolism--ME; Intestine, Large--Radiography--RA; *Microspheres*; Peptides--Administration and Dosage--AD; Proteins --Administration and Dosage--AD
Chemical Name: Alginates; (Biocompatible Materials; (Capsules; (Cross-Linking Reagents; (Delayed-Action Preparations; (Drug Carriers; (Peptides; (Proteins; (*Calcium* Chloride; (Barium Sulfate; (*Gelatin*; (alginic acid

12/3,K/3 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

07880363 EMBASE No: 1999335944
Preparation and evaluation of once-a-day injectable *microspheres* of interferon alpha in rats
Yoshikawa Y.; Komuta Y.; Nishihara T.; Itoh Y.; Yoshikawa H.; Takada K.
K. Takada, Department of Pharmacokinetics, Kyoto Pharmaceutical University, Yamashina-ku, Kyoto 607-8414 Japan
AUTHOR EMAIL: takada@mb.kyoyo-phu.ac.jp
Journal of Drug Targeting (J. DRUG TARGETING) (United Kingdom) 1999, 6/6 (449-461)
CODEN: JDTAE ISSN: 1061-186X
DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 25

Preparation and evaluation of once-a-day injectable *microspheres* of interferon alpha in rats

Gelatin *microspheres* (ms) and *gelatin*/BSA (bovine serum albumin) or *gelatin*/*alginate* ms were prepared by encapsulating fluorescein isothiocyanate (FITC) labeled dextran or interferon alpha (IFN-alpha). Ms were obtained by an emulsion-solvent-extraction method. *Gelatin* and *gelatin*/BSA ms were obtained by treating water-in-oil (W/O) emulsions with iso-propyl alcohol. *Gelatin*/*alginate* ms having different composition (25/1, 20/1, 15/1, 10/1 and 5/1) were obtained by treating a W/O emulsion composed of *gelatin* and sodium *alginate* with 0.5 M *calcium* chloride solution. The average diameters of all the prepared ms were approximately 300 mum. The FITC-dextran loading efficiencies were 96.5 +/- 0.6% for *gelatin* ms (no.1), 97.3 +/- 2.2% for *gelatin*/BSA ms (no.2) and 68.7 +/- 2.2%, 47.5 +/- 3.3%, 44.4 +/- 1.2%, 27.1 +/- 2.2% for *gelatin*/*alginate* ms (no.3-no.7). The IFN-alpha loading efficiencies were 10.8 +/- 0.5%, for *gelatin*/BSA ms (no.8) and 22.5 +/- 1.8%, 17.6 +/- 0.9% and 14.5 +/- 0.5% for *gelatin*/*alginate* ms (no.9, no.10 and no.11). In vitro release studies with ms containing FITC-dextran showed that the release rate of FITC-dextran from the ms decreased by the modification of *gelatin* ms with BSA or sodium *alginate*, although the effect of BSA addition to *gelatin* ms did not elucidate satisfactory sustained release characteristics of FITC-dextran after subcutaneous (sc) injection to rats. By decreasing the formulated ratio of *gelatin*/*alginate* from 25/1 to 5/1, the mean T50%, the time when the half amount of FITC-dextran contained was released from the ms, increased...

...and in vivo pharmacokinetic studies were performed in rats, where the dose of IFN-alpha was 2x 10sup 4 IU/rat. By the addition of *alginate* to *gelatin*, the release rate of IFN-alpha was decreased and the serum IFN-alpha concentration-time profiles showed better sustained-release characteristics of IFN-alpha from...
DRUG DESCRIPTORS:
**microsphere*; *alpha interferon--drug concentration--cr; *alpha interferon--pharmaceutics--pr; *alpha interferon--pharmacokinetics--pk *gelatin*--pharmaceutics--pr; bovine serum albumin--pharmaceutics--pr; alginic acid--pharmaceutics--pr; fluorescein isothiocyanate; dextran
CAS REGISTRY NO.: 9000-70-8 (*gelatin*); 28961-37-7...

12/3,K/4 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

05782443 EMBASE No: 1994183188
Drug carriers for transdermal preparations of flurbiprofen
Singh U.V.; Pandey S.; Udupa N.
College of Pharmaceutical Sciences, Kasturba Medical College,576 119 Karnataka India
Drug Development and Industrial Pharmacy (DRUG DEV. IND. PHARM.) (United States) 1994, 20/10 (1811-1820)
CODEN: DDIPD ISSN: 0363-9045
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Flurbiprofen was incorporated in different carriers like sodium *alginate* gel, *calcium* *alginate* *microspheres*, *gelatin* nanoparticles and complex with betacyclodextrin and incorporated in polyethylene glycol bases. Pharmacodynamic and bioavailability studies were carried out in male rats. It was found that drug incorporated in sodium *alginate* gel and drug complexes with betacyclodextrin were found to be suitable for designing transdermal preparations since they resulted in better therapeutic efficacy.

DRUG DESCRIPTORS:
microsphere; beta cyclodextrin; *gelatin*
CAS REGISTRY NO.: 5104-49-4 (flurbiprofen); 7585-39-9 (beta cyclodextrin);
9000-70-8 (*gelatin*)

12/3,K/5 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE

05741824 EMBASE No: 1994138791
Preparation and evaluation of *microspheres* of diclofenac sodium
Shobha Rani K.N.; Goundalkar A.G.; Prakasam K.
Al-Ameen College of Pharmacy, Hosur Road,Bangalore-560 027 India
Indian Journal of Pharmaceutical Sciences (INDIAN J. PHARM. SCI.) (
India) 1994, 56/2 (45-50)
CODEN: IJSID ISSN: 0250-474X
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

Preparation and evaluation of *microspheres* of diclofenac sodium

Microspheres of Diclofenac sodium were prepared using carriers such as albumin, ethyl cellulose, *gelatin*, *calcium* *alginate* and waxes by different techniques of microencapsulation. The yield varied from 65% to 85.2%. The stability of the drug in the formulations was confirmed by IR and TLC studies. Drug associated with the *microspheres* was estimated and it ranged from 14.5% to 90%. Scanning electron microscopy revealed the morphology of *microspheres*. Size of the particles in different *microspheres* as determined by optical microscopy ranged from 36.3 mum to 46.6 mum. Short term stability studies were carried out at 60degreeC, 37degreeC, room temperature (RT) and 5degreeC and they were all found stable except *microspheres* with waxes and albumin as the carriers which were unstable at 60degreeC. In-vitro release studies were carried out at different pH for a period of 8h and compared with pure drug and marketed samples. The rate of release of drug from the *microspheres* of *gelatin* and ethyl cellulose was significantly retarded.
DRUG DESCRIPTORS:
**microsphere*; *diclofenac--pharmaceutics--pr
drug carrier; albumin--pharmaceutics--pr; *calcium* *alginate*
--pharmaceutics--pr; ethyl cellulose--pharmaceutics--pr; *gelatin*
--pharmaceutics--pr; wax--pharmaceutics--pr
...CAS REGISTRY NO.: 15307-86-5 (diclofenac); 9005-35-0 (*calcium*
alginate); 9004-57-3 (ethyl cellulose); 9000-70-8 (*gelatin*);
83062-05-9 (wax)
?ds

Set	Items	Description
S1	407	(COACERVATE)
S2	6691	(VIRAL (W) VECTOR?) OR (RECOMBINANT (W) VIRUS)
S3	0	S1 AND S2
S4	561	(COACERVATE?)
S5	0	S4 AND S2
S6	38990	(MICROSPHERE?)
S7	11	S6 AND S2
S8	8	RD (unique items)
S9	185	(GELATIN AND ALGINATE)
S10	16	S6 AND S9
S11	7	S10 AND (CALCIUM)
S12	5	RD (unique items)

?s (nucleic (w) acid) or (DNA or RNA) or (plasmid?)
Processing

195666	NUCLEIC
2857241	ACID
171900	NUCLEIC(W)ACID
1504585	DNA

```
          798899  RNA
          193649  PLASMID?
     S13 2101842  (NUCLEIC (W) ACID) OR (DNA OR RNA) OR (PLASMID?)
?s s13 and s6
         2101842  S13
           38990  S6
     S14     821  S13 AND S6
?s s14 and s9
             821  S14
             185  S9
     S15       0  S14 AND S9
?s s14 and ((amphiphilic (w) molecule) or lipid or polylysine)
             821  S14
            7234  AMPHIPHILIC
          274052  MOLECULE
              85  AMPHIPHILIC(W)MOLECULE
          429360  LIPID
            7531  POLYLYSINE
     S16      37  S14 AND ((AMPHIPHILIC (W) MOLECULE) OR LIPID OR
                  POLYLYSINE)
?rd

### Status: Signing Off...

### Status: Break Sent.
```

```
YSTEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R)  1966-2000/Aug W1
        (c) format only 2000 Dialog Corporation
*File 155: MEDLINE has been reloaded. Accession numbers have changed.
  File   5:Biosis Previews(R)  1969-2000/Jun W3
        (c) 2000 BIOSIS
  File  73:EMBASE  1974-2000/May W1
        (c) 2000 Elsevier Science B.V.
*File  73: New drug links added. See Help News73.

      Set  Items  Description
      ---  -----  -----------
?ds
>>>No sets currently exist
?s (nucleic (w) acid) or (DNA or RNA) or (plasmid?)
Processing
         195666  NUCLEIC
        2857241  ACID
         171900  NUCLEIC(W)ACID
        1504585  DNA
         798899  RNA
         193649  PLASMID?
      S1 2101842  (NUCLEIC (W) ACID) OR (DNA OR RNA) OR (PLASMID?)
?s (microsphere?)
      S2   38990  (MICROSPHERE?)
?s s1 and s2
        2101842  S1
          38990  S2
      S3     821  S1 AND S2
?s s3 and ((amphiphilic (w) molecule?) or lipid or polylysine)
            821  S3
           7234  AMPHIPHILIC
         531626  MOLECULE?
            403  AMPHIPHILIC(W)MOLECULE?
         429360  LIPID
           7531  POLYLYSINE
      S4      37  S3 AND ((AMPHIPHILIC (W) MOLECULE?) OR LIPID OR
                  POLYLYSINE)
?s s4 and (gelatin or alginate)
             37  S4
          25804  GELATIN
           9402  ALGINATE
      S5      0  S4 AND (GELATIN OR ALGINATE)
?s s4 and (anionic and cationic)
             37  S4
          26637  ANIONIC
          35339  CATIONIC
      S6      0  S4 AND (ANIONIC AND CATIONIC)
?rd s4
...completed examining records
      S7     23  RD S4 (unique items)
?s s7 and (coacervate?)
             23  S7
            561  COACERVATE?
      S8      1  S7 AND (COACERVATE?)
?t s8

 8/2/1     (Item 1 from file: 73)
DIALOG(R)File  73:EMBASE
(c) 2000 Elsevier Science B.V. All rts. reserv.

07476235     EMBASE No: 1998384919
 Teaching the origin of the first living systems
  Graz C.J.M.
  C.J.M. Graz, Dept. of Biochemistry/Microbiology, University of Port
  Elizabeth, PO Box 1600, Port Elizabeth 6000  South Africa
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Biochemical Education (BIOCHEM. EDUC.) (United Kingdom) 1998, 26/4 (286-289)
CODEN: BIEDD ISSN: 0307-4412
PUBLISHER ITEM IDENTIFIER: S0307441298001678
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 25
DRUG DESCRIPTORS:
**dna*; **rna*; **microsphere*
MEDICAL DESCRIPTORS:
*biogenesis
biology; evolution; *lipid* vesicle; fossil; article
CAS REGISTRY NO.: 9007-49-2 (*dna*); 63231-63-0 (*rna*)
SECTION HEADINGS:
029 Clinical and Experimental Biochemistry
?ds

Set	Items	Description
S1	2101842	(NUCLEIC (W) ACID) OR (DNA OR RNA) OR (PLASMID?)
S2	38990	(MICROSPHERE?)
S3	821	S1 AND S2
S4	37	S3 AND ((AMPHIPHILIC (W) MOLECULE?) OR LIPID OR POLYLYSINE)
S5	0	S4 AND (GELATIN OR ALGINATE)
S6	0	S4 AND (ANIONIC AND CATIONIC)
S7	23	RD S4 (unique items)
S8	1	S7 AND (COACERVATE?)

?t s7/3,k/all

7/3,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10342971 20143209
***Lipid* *microsphere* preparation of a lipophilic ceramide derivative suppresses colony formation in a murine experimental pulmonary metastasis model.**
Takenaga M; Igarashi R; Matsumoto K; Takeuchi J; Mizushima N; Nakayama T; Morizawa Y; Mizushima Y
Institute of Medical Science, St. Marianna University School of Medicine, Kawasaki, Japan. m2take@marianna-u.ac.jp
Journal of drug targeting (SWITZERLAND) 1999, 7 (3) p187-95, ISSN 1061-186X Journal Code: B3S
Languages: ENGLISH
Document type: JOURNAL ARTICLE

***Lipid* *microsphere* preparation of a lipophilic ceramide derivative suppresses colony formation in a murine experimental pulmonary metastasis model.**
Ceramide is a well-known regulator of apoptosis and cell growth. In this study, we synthesized lipophilic ceramide derivatives to incorporate into *lipid* *microspheres* (LM) and their activity was evaluated in vivo. Cera 03, a lipophilic ceramide derivative synthesized from membrane-permeable C2-ceramide, caused potent growth inhibition and *DNA* fragmentation of Meth A-T tumor cells in vitro. Its potency was similar to that of C2-ceramide. Both compounds increased the proportion of apoptotic...
; Antineoplastic Agents--Chemistry--CH; Apoptosis--Drug Effects--DE; Cell Survival--Drug Effects--DE; Ceramides--Chemistry--CH; Drug Carriers; *DNA* Fragmentation--Drug Effects--DE; Indicators and Reagents; Lipids; Lung Neoplasms--Pathology--PA; Mice; Mice, Inbred BALB C; *Microspheres*; Neoplasm Metastasis--Pathology--PA; Tumor Cells, Cultured

7/3,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10239859 20045464

Stability of poly(L-lysine)-complexed *plasmid* *DNA* during mechanical stress and DNase I treatment.

Capan Y; Woo BH; Gebrekidan S; Ahmed S; DeLuca PP

University of Kentucky, College of Pharmacy, Faculty of Pharmaceutical Sciences, Lexington 40536, USA.

Pharmaceutical development and technology (UNITED STATES) 1999, 4 (4) p491-8, ISSN 1083-7450 Journal Code: C2N

Languages: ENGLISH

Document type: JOURNAL ARTICLE

Stability of poly(L-lysine)-complexed *plasmid* *DNA* during mechanical stress and DNase I treatment.

The aim of this study was to investigate the formation and stability of complexes between *plasmid* *DNA* (pDNA) and poly(L-lysine) (PLL). Formation of pDNA/PLL complexes with various ratios was determined by a fluorescence spectrophotometric method using fluorescamine. The effects...

...after DNase I treatment. The results show that complexation of pDNA with PLL can stabilize the supercoiled structure of pDNA for the development of biodegradable *microspheres* as a delivery system for pDNA. Stability of pDNA/PLL complex can be monitored by PicoGreen dye and fluorescence densitometric assay methods.

Descriptors: Deoxyribonuclease I--Chemistry--CH; **DNA*--Chemistry--CH; **Plasmids*--Chemistry--CH; **Polylysine*--Chemistry--CH; *Stress, Mechanical

Chemical Name: Deoxyribonuclease I; (Fluorescent Dyes; (PicoGreen; (*Plasmids*; (Solutions; (*Polylysine*; (*DNA*

7/3,K/3 (Item 3 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

10154084 99356090

Influence of formulation parameters on the characteristics of poly(D, L-lactide-co-glycolide) *microspheres* containing poly(L-lysine) complexed *plasmid* *DNA*.

Capan Y; Woo BH; Gebrekidan S; Ahmed S; DeLuca PP

Hacettepe University, Faculty of Pharmacy, Department of Pharmaceutical Technology, 06100, Ankara, Turkey.

Journal of controlled release (NETHERLANDS) Aug 5 1999, 60 (2-3) p279-86, ISSN 0168-3659 Journal Code: C46

Languages: ENGLISH

Document type: JOURNAL ARTICLE

Influence of formulation parameters on the characteristics of poly(D, L-lactide-co-glycolide) *microspheres* containing poly(L-lysine) complexed *plasmid* *DNA*.

This study describes the influence of polymer type, surfactant type/concentration, and target drug loading on the particle size, *plasmid* *DNA* (pDNA) structure, drug loading efficiency, in vitro release, and protection from DNase I degradation of poly(D, L-lactide-co-glycolide) (PLGA) *microspheres* containing poly(L-lysine) (PLL) complexed pDNA. PLGA *microspheres* containing pDNA-PLL were prepared using the water-in-oil-in-water (w-o-w) technique with poly(vinyl alcohol) (PVA) and poly(vinyl pyrrolidone) (PVP) as surfactants in the external aqueous phase. A complex ratio of 1:0.33 (pDNA-PLL, w/w) enhanced the stability of pDNA during *microsphere* preparation. Higher pDNA-PLL loading efficiency (46.2%) and supercoiled structure (64.9%) of pDNA were obtained from hydrophobic PLGA (M(w) 31000) *microspheres* compared with hydrophilic PLGA or low-molecular-weight PLGA *microspheres*. The particle size decreased from 6.6 to 2.2 microm when the concentration of PVA was increased from 1 to 7%. At the same concentration of surfactant, PVA stabilized *microspheres* showed higher pDNA-PLL loading efficiency (46.2%) than PVP stabilized *microspheres* (24.1%). Encapsulated pDNA in PLGA *microspheres*

was protected from enzymatic degradation and maintained in the supercoiled form. The pDNA-PLL *microspheres* showed in vitro release of 95.9 and 84.9% within 38 days from the low-molecular-weight PLGA and hydrophilic PLGA *microspheres* , respectively, compared to 54.2% release from the hydrophobic, higher-molecular-weight PLGA *microspheres* . The results suggest loading and release of pDNA-PLL complex can be influenced by surfactant concentration and polymer type.

Descriptors: Delayed-Action Preparations--Chemistry--CH; **DNA* Adducts --Chemistry--CH; *Lactic Acid--Chemistry--CH; *Polyglycolic Acid--Chemistry --CH; **Polylysine*--Chemistry--CH; *Polymers--Chemistry--CH; *Surface-Acti ve Agents--Chemistry--CH; Delayed-Action Preparations--Chemical Synthesis --CS; Deoxyribonuclease I--Chemistry--CH; Electrophoresis, Agar Gel; Microscopy, Electron, Scanning; *Microspheres*; Particle Size; *Plasmids* --Chemistry--CH; Polyvinyl Alcohol--Chemistry--CH; Povidone--Chemistry--CH

Chemical Name: Deoxyribonuclease I; (polylactic acid-polyglycolic acid copolymer; (Delayed-Action Preparations; (*DNA* Adducts; (*Plasmids*; (Polymers; (Surface-Active Agents; (*Polylysine*; (Polyglycolic Acid; (Lactic Acid; (Polyvinyl Alcohol; (Povidone

7/3,K/4 (Item 4 from file: 155)

09941037 99242263

Preparation and characterization of poly (D,L-lactide-co-glycolide) *microspheres* for controlled release of poly(L-lysine) complexed *plasmid* *DNA*.

Capan Y; Woo BH; Gebrekidan S; Ahmed S; DeLuca PP

University of Kentucky, College of Pharmacy, Faculty of Pharmaceutical Sciences, Lexington 40536, USA.

Pharmaceutical research (UNITED STATES) Apr 1999, 16 (4) p509-13, ISSN 0724-8741 Journal Code: PHS

Languages: ENGLISH

Document type: JOURNAL ARTICLE

Preparation and characterization of poly (D,L-lactide-co-glycolide) *microspheres* for controlled release of poly(L-lysine) complexed *plasmid* *DNA*.

PURPOSE: To produce and characterize controlled release formulations of *plasmid* *DNA* (pDNA) loaded in poly (D,L-lactide-co-glycolide) (PLGA) *microspheres* both in free form and as a complex with poly (L-lysine). METHODS: Poly (L-lysine) (PLL) was used to form pDNA/PLL complexes with complexation ratio of 1:0.125 and 1:0.333 w/w to enhance the stability of pDNA during *microsphere* preparation and protect pDNA from nuclease attack. pDNA structure, particle size, zeta potential, drug loading, in vitro release properties, and protection from DNase I were studied. RESULTS: The *microspheres* were found to be spherical with average particle size of 3.1-3.5 microm. Drug loading of 0.6% was targeted. Incorporation efficiencies of 35.1% and 29.4-30.6% were obtained for pDNA and pDNA/PLL loaded *microspheres* respectively. Overall, pDNA release kinetics following the initial burst did not correlate with blank *microsphere* polymer degradation profile suggesting that pDNA release is convective diffusion controlled. The percentage of supercoiled pDNA in the pDNA and pDNA/PLL loaded *microspheres* was 16.6 % and 76.7-85.6% respectively. Unencapsulated pDNA and pDNA/PLL degraded completely within 30 minutes upon the addition of DNase I. Encapsulation of *DNA*/PLL in PLGA *microspheres* protected pDNA from enzymatic degradation. CONCLUSIONS: The results show that using a novel process, pDNA can be stabilized and encapsulated in PLGA *microspheres* to protect pDNA from enzymatic degradation.

Descriptors: Biocompatible Materials--Chemical Synthesis--CS; **DNA* --Chemical Synthesis--CS; *Lactic Acid--Chemical Synthesis--CS; **Plasmids* --Chemical Synthesis--CS; *Polyglycolic Acid--Chemical Synthesis--CS; * *Polylysine*--Chemistry--CH; *Polymers--Chemical Synthesis--CS; Biocompatib le Materials--Administration and Dosage--AD; Delayed-Action Preparations;

Deoxyribonuclease I--Metabolism--ME; Deoxyribonuclease I--Pharmacology--PD ; Drug Compounding; *DNA*--Administration and Dosage--AD; *DNA* --Metabolism--ME; Lactic Acid--Administration and Dosage--AD; Microscopy, Electron, Scanning; *Microspheres*; Particle Size; *Plasmids* --Administration and Dosage--AD; *Plasmids*--Ultrastructure--UL; Polyglycolic Acid--Administration and Dosage--AD; *Polylysine* --Administration and Dosage--AD; Polymers--Administration and Dosage--AD; Surface Properties

Chemical Name: Deoxyribonuclease I; (polylactic acid-polyglycolic acid copolymer; (Biocompatible Materials; (Delayed-Action Preparations; (*Plasmids*; (Polymers; (*Polylysine*; (Polyglycolic Acid; (Lactic Acid; (*DNA*

7/3,K/5 (Item 5 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

09816027 99081931

Encapsulation of *plasmid* *DNA* in biodegradable poly(D, L-lactic-co-glycolic acid) *microspheres* as a novel approach for immunogene delivery.

Wang D; Robinson DR; Kwon GS; Samuel J

Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton, Alberta T6G 2N8, Canada.

Journal of controlled release (NETHERLANDS) Jan 4 1999, 57 (1) p9-18, ISSN 0168-3659 Journal Code: C46

Languages: ENGLISH

Document type: JOURNAL ARTICLE

Encapsulation of *plasmid* *DNA* in biodegradable poly(D, L-lactic-co-glycolic acid) *microspheres* as a novel approach for immunogene delivery.

A *plasmid* *DNA* encoding bacterial beta-galactosidase gene was encapsulated in poly(d,l-lactic-co-glycolic acid) (PLGA) *microspheres*. *Plasmid* *DNA* extracted from PLGA *microspheres* retained both structural and functional integrity as evidenced by its restriction endonuclease digestion pattern and its ability to transfect COS-1 cells in vitro. PLGA *microspheres* protected *plasmid* *DNA* from digestion by deoxyribonuclease I (DNase I) in vitro. The encapsulation efficiency of *plasmid* *DNA* and its release rate depended on the molecular mass of PLGA. Lastly, J-774A macrophages phagocytosed PLGA *microspheres* loaded with *plasmid* *DNA*. Co-encapsulated monophosphoryl *lipid* A increased the rate of phagocytosis. These results suggest that biodegradable PLGA *microspheres* can deliver intact and functional *plasmid* *DNA* at controlled rates. Thus, PLGA *microspheres* may be used to jointly deliver genes and other biologically active molecules, e.g., immunomodulators, to antigen presenting cells.

Descriptors: *DNA*--Administration and Dosage--AD; **DNA*--Immunology --IM; *Gene Transfer; beta-Galactosidase--Genetics--GE; Biocompatible Materials; Cell Line; COS Cells; Deoxyribonuclease I--Metabolism--ME; Drug Compounding--Methods--MT; *DNA*--Chemistry--CH; Lactic Acid; Mice; Microscopy, Electron, Scanning; *Microspheres*; Particle Size; Phagocytosis --Drug Effects--DE; *Plasmids*--Genetics--GE; *Plasmids*--Immunology--IM; *Plasmids*--Ultrastructure--UL; Polyglycolic Acid; Polymers; Transfection

Chemical Name: Deoxyribonuclease I; (beta-Galactosidase; (polylactic acid-polyglycolic acid copolymer; (Biocompatible Materials; (*Plasmids*; (Polymers; (Polyglycolic Acid; (Lactic Acid; (*DNA*

7/3,K/6 (Item 6 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

09349608 97439410

Prostaglandin E1 prevents apoptotic cell death in superficial dorsal horn

of rat spinal cord.
Kawamura T; Akira T; Watanabe M; Kagitani Y
Central Research Laboratories, The Green Cross Corporation, Osaka, Japan.
Neuropharmacology (ENGLAND) Aug 1997, 36 (8) p1023-30, ISSN 0028-3908
Journal Code: NZB
Languages: ENGLISH
Document type: JOURNAL ARTICLE

...in the territory of the spinal cord which receives afferent excitatory inputs from the sciatic nerve was confirmed by TUNEL-staining and electrophoresis of genomic *DNA*. The morphological changes including the appearance of dark neurones, as identified by toluidine-blue staining, were almost completely blocked by 10 microg/kg of the prostaglandin E (EP) receptor agonist lipo-PGE1, incorporating PGE1 in *lipid* *microspheres* for chemical stability and targeted delivery, but not by 10 microg/kg of carbacyclin a prostacyclin (IP) receptor agonist. Lipo-PGE1 also blocked the "ladder type" fragmentation of genomic *DNA* extracted from tissue in the affected area of the spinal cord. Since the regional blood flow in the subfield of the spinal cord was neither...
; Constriction; *DNA* Fragmentation--Drug Effects--DE; Epoprostenol --Analogs and Derivatives--AA; Epoprostenol--Pharmacology--PD; Nerve Degeneration--Drug Effects--DE; Neurons--Drug Effects--DE; Neurons --Physiology--PH; Rats...

7/3,K/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09316907 97467995
Nanoparticle *DNA* carrier with poly(L-lysine) grafted polysaccharide copolymer and poly(D,L-lactic acid).
Maruyama A; Ishihara T; Kim JS; Kim SW; Akaike T
Department of Biomolecular Engineering, Faculty of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan.
Bioconjugate chemistry (UNITED STATES) Sep-Oct 1997, 8 (5) p735-42, ISSN 1043-1802 Journal Code: A1T
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Nanoparticle *DNA* carrier with poly(L-lysine) grafted polysaccharide copolymer and poly(D,L-lactic acid).
... These results suggest that the nanoparticles prepared from poly(L-lysine)-graft-polysaccharide copolymer and poly(D,L-lactic acid) can serve as a good *DNA* carrier in vivo.
Descriptors: *DNA*--Administration and Dosage--AD; *Lactic Acid --Chemistry--CH; **Polylysine*--Chemistry--CH; *Polymers--Chemistry--CH; *Polysaccharides--Chemistry--CH; Adsorption; Carbohydrate Sequence; Drug Carriers--Administration and Dosage--AD; Electrophoresis, Polyacrylamide Gel; Lectins; Microscopy, Electron, Scanning; *Microspheres*; Molecular Sequence Data; *Plasmids*--Chemistry--CH; Surface Properties; Thermodynamics
Chemical Name: Drug Carriers; (Lectins; (*Plasmids*; (Polymers; (Polysaccharides; (*Polylysine*; (poly(lactic acid); (Lactic Acid; (*DNA*

7/3,K/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09063675 97150875
Loss of binding and entry of liposome-*DNA* complexes decreases transfection efficiency in differentiated airway epithelial cells.
Matsui H; Johnson LG; Randell SH; Boucher RC
Cystic Fibrosis/Pulmonary Research and Treatment Center, University of North Carolina, Chapel Hill 27599-7248, USA. comodo@med.unc.edu

Journal of biological chemistry (UNITED STATES) Jan 10 1997, 272 (2) p1117-26, ISSN 0021-9258 Journal Code: HIV
Contract/Grant No.: HL51818, HL, NHLBI
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Loss of binding and entry of liposome-*DNA* complexes decreases transfection efficiency in differentiated airway epithelial cells.

... more difficult to transfect with cationic liposomes than poorly differentiated cells. The poorly differentiated cells at the edge of the islands were transfectable with liposome-*DNA* complexes (pCMVbeta:LipofectACE = 1:5 (w/w)), whereas the more differentiated cells in the center of the islands were not. Evaluation of the steps leading to *lipid*-mediated transfection revealed that edge cells bound more liposome-*DNA* complexes, in part due to a more negative surface charge (as measured by cationized ferritin binding), and that edge cells internalized more liposome-*DNA* complexes than central cells. Edge cells exhibited receptor-mediated endocytosis of LDL, pinocytosis of 10-nm *microspheres*, and phagocytosis of 2-microm *microspheres*, whereas central cells were only capable of receptor-mediated endocytosis. Cytochalasin B, which inhibited pinocytosis by 65% and phagocytosis by 93%, decreased edge cell liposome-*DNA* complex entry by 50%. Potassium depletion, which decreased phagocytosis by >90% but had no effect on pinocytosis, inhibited edge cell liposome-*DNA* complex entry by 71%. These results indicate that liposome-*DNA* complexes enter edge cells via phagocytosis and that this pathway is not detectable in central cells. In conclusion, both reduced negative surface charge and absence...

Descriptors: *DNA*--Metabolism--ME; *Lung--Cytology--CY; *Transfection --Methods--MT
Chemical Name: Liposomes; (Cytochalasin B; (Potassium; (*DNA*; (Ferritin

7/3,K/9 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07904705 94214029

Scanning concentration correlation spectroscopy using the confocal laser microscope [published erratum appears in Biophys J 1994 Apr;66(4):1263]

Koppel DE; Morgan F; Cowan AE; Carson JH
Department of Biochemistry, University of Connecticut Health Center, Farmington 06030.

Biophysical journal (UNITED STATES) Feb 1994, 66 (2 Pt 1) p502-7, ISSN 0006-3495 Journal Code: A5S
Contract/Grant No.: ES05973, ES, NIEHS; GM23585, GM, NIGMS; NS15190, NS, NINDS
Languages: ENGLISH
Document type: JOURNAL ARTICLE

...an ensemble of 768 independent subvolumes and determine the space-time correlation function. We demonstrate the technique using two different types of samples, fluorescently labeled *DNA* molecules in solution and colloidal gold-tagged lipids in a planar bilayer. This approach, which we term "scanning concentration correlation spectroscopy," provides a straightforward means...

; Biophysics; *DNA*, Viral--Chemistry--CH; Gold Colloid--Chemistry--CH; Lasers; *Lipid* Bilayers--Chemistry--CH; Macromolecular Systems; *Microspheres*; Motion
Chemical Name: *DNA*, Viral; (Gold Colloid; (*Lipid* Bilayers; (Macromolecular Systems

7/3,K/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07194133 93112089

The consequences of doxorubicin quinone reduction in vivo in tumour tissue.

Cummings J; Willmott N; Hoey BM; Marley ES; Smyth JF
Imperial Cancer Research Fund, Western General Hospital, Edinburgh, U.K.

Biochemical pharmacology (ENGLAND) Dec 1 1992, 44 (11) p2165-74,
ISSN 0006-2952 Journal Code: 9Z4
Languages: ENGLISH
Document type: JOURNAL ARTICLE

... three possible outcomes of this form of doxorubicin metabolism: (1) drug free radical formation, redox cycling and generation of reactive oxygen species (ROS) resulting in *lipid* peroxidation and *DNA* damage; (2) covalent binding of reactive drug intermediates to *DNA*; and (3) formation of an inactive 7-deoxyaglycone metabolite. In this work, the occurrence of each of these pathways has been studied in vivo in a subcutaneously growing rat mammary carcinoma (Sp 107). Doxorubicin was administered by direct intratumoural injection either as the free drug or incorporated in albumin *microspheres* (10-40 microns diameter). There was no evidence of an increase in *lipid* peroxidation over background after either treatment at any time point studied. In fact, doxorubicin administration resulted in a statistically significant reduction in *lipid* peroxidation at the later time points studied compared to control (no drug treatment), e.g. 24 hr: control, 21.7 +/- 2.8 SD nmol malondialdehyde/g tissue; free doxorubicin (70 micrograms drug), 14.5 +/- 4.0 SD nmol/g ($P < 0.01$ Student's t-test) and doxorubicin *microspheres* (70 micrograms drug), 17.4 +/- 1.1 nmol/g ($P < 0.05$). Covalent binding to *DNA* was measured by a 32P-post-labelling technique. Low levels of four putative drug-*DNA* adducts were detected; however, there were no qualitative or quantitative differences in profiles between free drug and *microspheres* . High 7-deoxyaglycone metabolite concentrations comparable to the parent drug itself were detected after administration of *microspheres* (3.0 micrograms/g +/- 1.7 SD at 24 hr and 3.1 micrograms/g +/- 1.1 SD at 48 hr). In contrast, these metabolites...

... at 48 hr). Thus, 7-deoxyaglycone metabolite formation can occur in tumour tissue (indicating active drug quinone reduction) without concomitant increases in the level of *lipid* peroxidation or the levels of drug-*DNA* adducts. In conclusion, the main biological consequence of doxorubicin quinone reduction in vivo in tumour tissue would appear to be drug inactivation to a 7-deoxyaglycone metabolite rather than drug activation to *DNA* reactive species or ROS.

; Albumins--Administration and Dosage--AD; Doxorubicin--Pharmacology--PD; Doxorubicin--Pharmacokinetics--PK; *DNA*, Neoplasm--Metabolism--ME; Injections, Intralesional; Isotope Labeling; *Lipid* Peroxidation; Mammary Neoplasms, Experimental--Drug Therapy--DT; *Microspheres*; Models, Biological; Naphthacenes--Metabolism--ME; Neoplasm Transplantation; Oxidation-Reduction; Phosphorus Radioisotopes; Rats; Rats, Inbred Strains; Tissue Distribution

Chemical Name: Albumins; (*DNA*, Neoplasm; (Naphthacenes; (Phosphorus Radioisotopes; (Quinones; (Doxorubicin; (7-deoxyadriamycin aglycone

7/3,K/11 (Item 11 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

05916261 87047563

Depletion of human lymphocytes from peripheral blood and bone marrow by affinity ligands conjugated to agarose-polyacrolein *microsphere* beads.

Weiss L; Margel S; Slavin S

Applied biochemistry and biotechnology (UNITED STATES) Oct 1986, 13 (2) p87-96, ISSN 0273-2289 Journal Code: 6KJ
Contract/Grant No.: CA 30313, CA, NCI
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Depletion of human lymphocytes from peripheral blood and bone marrow by affinity ligands conjugated to agarose-polyacrolein *microsphere* beads.

Protein-A or goat anti-mouse-Ig (GAMIg) covalently bound to agarose-polyacrolein *microsphere* beads (APAMB) were employed for the removal of T cells from human peripheral blood leukocytes (PBL) and bone marrow (BM). The cell suspensions were treated...

; Acrolein; Cell Separation--Methods--MT; Colony-Forming Units Assay; Concanavalin A; *DNA* Replication; Glutaral; Indicators and Reagents; Lymphocyte Transformation; *Microspheres*; *Polylysine*; Polymers; Rosette Formation; Sepharose; T-Lymphocytes--Immunology--IM

Chemical Name: Indicators and Reagents; (Polymers; (Acrolein; (Concanavalin A; (Glutaral; (polyacrolein; (*Polylysine*; (Sepharose

7/3,K/12 (Item 12 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

02705528 80088147

Replenishment of alveolar macrophages in silicosis: implication of recruitment by *lipid* feed-back.

Civil GW; Heppleston AG

British journal of experimental pathology (ENGLAND) Oct 1979, 60 (5) p537-47, ISSN 0007-1021 Journal Code: AWW

Languages: ENGLISH

Document type: JOURNAL ARTICLE

Replenishment of alveolar macrophages in silicosis: implication of recruitment by *lipid* feed-back.

... role of systemic recruitment was therefore explored. Injected silica and lipids stimulated the phagocytic function of the mononuclear phagocytic system (MPS), whilst inhaled silica provoked *lipid* accumulation in the lung, thus suggesting that *lipid* might also induce a proliferative response in the marrow. Using marrow cultures, cells of the rat MPS were identified by size and phagocytic capacity for latex *microspheres*, and then subjected to kinetic analysis in litter-mate pairs by single and double labelling autoradiography, under normal conditions and after administration of *lipid* extracted from rat lungs consolidated by silica-induced alveolar lipo-proteinosis. Treatment of the results by a new device facilitated distinction of promonocytes from monocytes and thus afforded a more precise means of assessing MPS kinetics. The duration of *DNA* synthesis and the cell-cycle time of promonocytes were reduced and the rate of entry into *DNA* synthesis increased as a result of i.v. injection of lung *lipid* . These findings support the involvement of systemic recruitment of monocytes from the marrow by a positive feed-back mechanism when a powerful irritant persists in...

7/3,K/13 (Item 13 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

02050190 75146875

Optimal conditions for uptake of exogenous *DNA* by Chinese hamster lung cells deficient in hypoxanthine-guanine phosphoribosyltransferase.

Farber FE; Melnick JL; Butel JS

Biochimica et biophysica acta (NETHERLANDS) May 16 1975, 390 (3) p298-311, ISSN 0006-3002 Journal Code: A0W

Languages: ENGLISH

Document type: JOURNAL ARTICLE

Optimal conditions for uptake of exogenous *DNA* by Chinese hamster lung cells deficient in hypoxanthine-guanine phosphoribosyltransferase.

Conditions were characterized for maximizing the uptake of exogenous mammalian cell *DNA* by hypoxanthine-guanine phosphoribosyltransferase-defi

cient Chinese hamster lung cells. Recipient cell cultures in an exponential growth phase were found to be more competent in taking up *DNA* than stationary cultures. Polyornithine enhanced the uptake of exogenous *DNA* more reproducibly and to a greater extent than did any of the other facilitators tested (DEAE-dextran, CaCl2, latex spheres, spermine, *polylysine* and polyarginine). Maximal *DNA* incorporation occurred when polyornithine and *DNA* were mixed together prior to inoculation. About 25-30% of the *DNA* inoculum became deoxyribonuclease-resistant in a typical experiment utilizing polyornithine as the facilitator. Both homologous and heterologous exogenous DNAs rapidly became associated with recipient cell nuclei: approximately 95% of the deoxyribonuclease-resistant donor *DNA* was nuclear-associated 15 min after inoculation.

Descriptors: *DNA*--Metabolism--ME; *Hypoxanthine Phosphoribosyltransfera se--Metabolism--ME; *Lung--Metabolism--ME; Biological Transport; Cell Line; Deoxyribonucleases; DEAE-Dextran; Hamsters; Kinetics; Latex; *Microspheres* ; Mutation; Peptides--Pharmacology--PD; Spermine--Pharmacology--PD; Subcellular Fractions--Metabolism--ME; Thymidine--Metabolism--ME

7/3,K/14 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11120172 BIOSIS NO.: 199799741317
Prostaglandin E-1 prevents apoptotic cell death in superficial dorsal horn of rat spinal cord.
AUTHOR: Kawamura T; Akira T(a); Watanabe M; Kagitani Y
AUTHOR ADDRESS: (a)Central Res. Lab., Green Cross Corp., Osaka**Japan
JOURNAL: Neuropharmacology 36 (8):p1023-1030 1997
ISSN: 0028-3908
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: in the territory of the spinal cord which receives afferent excitatory inputs from the sciatic nerve was confirmed by TUNEL-staining and electrophoresis of genomic *DNA*. The morphological changes including the appearance of dark neurones, as identified by toluidine-blue staining, were almost completely blocked by 10 mu-g/kg of the prostaglandin E (EP) receptor agonist lipo-PGE-1, incorporating PGE, in *lipid* *microspheres* for chemical stability and targeted delivery, but not by 10 mu-g/kg of carbacyclin a prostacyclin (IP) receptor agonist. Lipo-PGE-1 also blocked the "ladder type" fragmentation of genomic *DNA* extracted from tissue in the affected area of the spinal cord. Since the regional blood flow in the subfield of the spinal cord was neither...
MISCELLANEOUS TERMS: ...*DNA*;

7/3,K/15 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10982638 BIOSIS NO.: 199799603783
Molecular evolution in bacteria: Surfaces, cathodes and anodes.
AUTHOR: Trevors J T
AUTHOR ADDRESS: Lab. Microbial Technol., Dep. Environ. Biol., Univ. Guelph, Guelph, ON N1G 2W1**Canada
JOURNAL: Antonie van Leeuwenhoek 71 (4):p363-368 1997
ISSN: 0003-6072
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: system may have been naturally occurring on a nm to am scale. Secondly, the cathode-anode system could have been separated by a primitive, permeable *lipid* or *microsphere* on a mineral surface, that was a precursor of a more advanced membrane with a charge differential on either side of the membrane. These aspects...

MISCELLANEOUS TERMS: ...*DNA*;

7/3,K/16 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

09353296 BIOSIS NO.: 199497361666
Prostaglandins in the treatment of cancer.
AUTHOR: Sasaki Hiroshi(a); Fukushima Mananori
AUTHOR ADDRESS: (a)Dep. Obstet. Gynecol., Jikei Univ. Sch. Med., Minato-ku, Tokyo 105**Japan
JOURNAL: Anti-Cancer Drugs 5 (2):p131-138 1994
ISSN: 0959-4973
DOCUMENT TYPE: Literature Review
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: isomers of methyl-DELTA-7-PGA-1 showed the same antiproliferative activities on ovarian carcinoma cells. In addition, methyl-DELTA-7-PGA-1 integrated in *lipid* *microspheres* (lipo-methyl-DELTA-7-PGA-1) is more soluble in water than methyl-DELTA-7-PGA-1 alone. Hence, lipo-methyl-DELTA-7-PGA-1...

...administration. Slight anemia was recognized with decrease of both red blood cell count and hemoglobin. However, the dose-limiting factors remain undetermined. The inhibition of *DNA* synthesis by antitumor PGs is independent of AMP. PGs were transferred into the nucleus, and DELTA-12-PGJ-2 covalently bound to nuclear proteins and inhibited *RNA* synthesis. With respect to their antiproliferative activity, the primary effect of PGA-1, PGD-2, DELTA-7-PGA-1 and DELTA-12-PGJ-2 was...

...DELTA-7-PGA-1 gt PGA-1 gt PGA-2. The cyclopentenone ring seems to have a universal action of both antitumor activity and antiviral *DNA* activity.

7/3,K/17 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

02125597 BIOSIS NO.: 000063040593
THE RATE OF CEREBRAL UTILIZATION OF GLUCOSE KETONE BODIES AND OXYGEN A COMPARATIVE IN-VIVO STUDY OF INFANT AND ADULT RATS
AUTHOR: DAHLQUIST G; PERSSON B
JOURNAL: PEDIATR RES 10 (11). 1976 910-917.
FULL JOURNAL NAME: Pediatric Research
CODEN: PEREB
RECORD TYPE: Abstract

ABSTRACT: Cerebral blood flow (CBF) was measured by means of 141Ce-labeled *microspheres* in infant (20 day old) and adult (3 month old) rats, anesthetized with sodium-5-ethyl-5-(1-methylpropyl)2-thiobarbituric acid. Cerebral arteriovenous differences of acetoacetate, D-.beta.-hydroxybutyrate, glucose, lactate and O2 and brain *DNA* content were determined in other groups of similarly treated infant and adult animals fed or starved for 48 or 72 h. The mean CBF values...

...was found for D-.beta.-hydroxybutyrate only in infant animals. In the fed state, the cerebral uptake of glucose and ketone bodies (micromoles per (mg *DNA* .times. min)) was not different in infant and adult rats. During starvation, cerebral uptake of ketone bodies expressed as micromoles per (mg *DNA* .times. min) was higher in infant than adult rats, indicating a higher rate of utilization of ketone bodies per cell in these animals. For glucose...

...and adult rats, respectively. Calculated cerebral metabolic rates for

oxygen (CMRO2), assuming complete oxidation of glucose and ketone bodies and expressed as micromoles per (mg *DNA* .times. min), was similar to fed and starved rats of both age groups, indicating that ketone bodies served as an alternative substrate for glucose during...

...oxidation. The present study supports the concept that during the period of maximum myelination in rat brain, when the need of substrate for synthesis of *lipid* and protein is great, the infant rat brain is adapted to a higher utilization of D-.beta.-hydroxybutyrate and acetoacetate than later in life. Thus...
DESCRIPTORS: SODIUM 5 ETHYL-5 1-METHYLPROPYL-2 THIO BARBITURIC-ACID ACETOACETATE D-BETA HYDROXY BUTYRATE LACTATE *DNA* STARVATION CEREBRAL BLOOD FLOW ARTERIO VENOUS LEVELS MYELINATION

7/3,K/18 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

10526510 EMBASE No: 2000002376
A *microsphere*-lipoplex (microplex) vector for targeted gene therapy of cancer. I. Construction and in vitro evaluation
Dass C.R.; Walker T.L.; Kalle W.H.J.; Burton M.A.
C.R. Dass, Cell Biology Unit, Heart Research Institute, 145 Missenden Road, Camperdown, NSW 2050 Australia
AUTHOR EMAIL: cell.biology@hri.org.au
Drug Delivery: Journal of Delivery and Targeting of Therapeutic Agents (DRUG DELIV. J. DELIV. TARGETING THER. AGENTS) (United States) 1999, 6/4 (259-269)
CODEN: DDELE ISSN: 1071-7544
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 30

A *microsphere*-lipoplex (microplex) vector for targeted gene therapy of cancer. I. Construction and in vitro evaluation

Plasmid *DNA* binding to cationic liposomes and the ability to bind these liposomes, both with and without complexed *plasmid* *DNA*, to cation-exchange *microspheres* were examined. The two *plasmids* tested were pCMV-CAT and pRcCMV- p53. Commercial Lipofectin, Lipofectace, Lipofectamine, and three formulation ratios of dimethyldioctadecyl ammonium bromide (DDAB):phosphatidylcholine and DDAB:dioleoylphosphatidyl ethanolamine liposomes were evaluated. The binding of empty liposomes onto *microspheres* increased and the release from *microspheres* decreased with increasing ratio of cationic:neutral *lipid*. Of all liposomes, Lipofectamine bound the most copy numbers of both *plasmids*. The amount of *plasmid* bound on the laboratory-formulated liposomes increased as the ratio of cationic:neutral *lipid* was increased. The amount of *plasmid* bound to the formulated liposomes was not affected by the type of neutral *lipid* used. On average, in terms of copy numbers, binding with pCMV-CAT was 1.38-fold higher than pRcCMV-p53. However, *microspheres* bound 1.7-fold more copy numbers of liposomal-complexed-pRcCMV-p53 *plasmid* compared to complexed pCMV-CAT. In the release studies, even in the terminal wash, at least 6 x 10sup 8 copies of complexed *plasmids* were released, with additional *plasmids* being held in reserve. Examination of the applicability of such a combination vehicle for in vivo gene targeting to solid tumors is warranted.
DRUG DESCRIPTORS:
**microsphere*
liposome; *plasmid* *DNA*; dimethyldioctadecylammonium bromide; phosphatidylcholine; lipofectamine; lipofectin; dioleoylphosphatidylethanolamine
MEDICAL DESCRIPTORS:
expression vector; *plasmid*; gene transfer; quality control; isotope labeling; cation exchange; article; priority journal

7/3,K/19 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

07476235 EMBASE No: 1998384919
Teaching the origin of the first living systems
Graz C.J.M.
C.J.M. Graz, Dept. of Biochemistry/Microbiology, University of Port Elizabeth, PO Box 1600, Port Elizabeth 6000 South Africa
Biochemical Education (BIOCHEM. EDUC.) (United Kingdom) 1998, 26/4 (286-289)
CODEN: BIEDD ISSN: 0307-4412
PUBLISHER ITEM IDENTIFIER: S0307441298001678
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 25

...which describes the major perspectives on the origins of living systems, as the medium of instruction. All of the major schools of thought - chemical evolution, *DNA* vs. *RNA*, protocell formation, coacervates, panspermia and special creation - are discussed. The aim of the paper is not to be a definitive review on the origin of...
DRUG DESCRIPTORS:
**dna*; **rna*; **microsphere*
MEDICAL DESCRIPTORS:
biology; evolution; *lipid* vesicle; fossil; article
CAS REGISTRY NO.: 9007-49-2 (*dna*); 63231-63-0 (*rna*)

7/3,K/20 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE

06965039 EMBASE No: 1997249636
Prostaglandin Einf 1 prevents apoptotic cell death in superficial dorsal horn of rat spinal cord
Kawamura T.; Akira T.; Watanabe M.; Kagitani Y.
T. Akira, Central Research Laboratories, The Green Cross Corporation, Osaka Japan
Neuropharmacology (NEUROPHARMACOLOGY) (United Kingdom) 1997, 36/8 (1023-1030)
CODEN: NEPHB ISSN: 0028-3908
PUBLISHER ITEM IDENTIFIER: S0028390897000968
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 36

...in the territory of the spinal cord which receives afferent excitatory inputs from the sciatic nerve was confirmed by TUNEL-staining and electrophoresis of genomic *DNA*. The morphological changes including the appearance of dark neurones, as identified by toluidine-blue staining, were almost completely blocked by 10 mug/kg of the prostaglandin E (EP) receptor agonist lipo-PGEinf 1, incorporating PGEinf 1 in *lipid* *microspheres* for chemical stability and targeted delivery, but not by 10 mug/kg of carbacyclin a prostacyclin (IF) receptor agonist. Lipo-PGEinf 1 also blocked the 'ladder type' fragmentation of genomic *DNA* extracted from tissue in the affected area of the spinal cord. Since the regional blood flow in the subfield of the spinal cord was neither...
DRUG DESCRIPTORS:
carbacyclin--drug comparison--cm; carbacyclin--drug dose--do; carbacyclin --pharmacology--pd; *dna*--endogenous compound--ec; *dna* fragment --endogenous compound--ec; *microsphere*--pharmaceutics--pr; prostacyclin receptor--endogenous compound--ec; prostaglandin e receptor--endogenous compound--ec; prostaglandin receptor--endogenous compound--ec;

prostaglandin receptor stimulating agent--pharmacology--pd; prostaglandin ...
CAS REGISTRY NO.: 69552-46-1 (carbacyclin); 9007-49-2 (*dna*)

7/3,K/21 (Item 4 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2000 Elsevier Science B.V. All rts. reserv.

06441625 EMBASE No: 1996105660
Detection and isolation of lectin-transfected COS cells based on cell adhesion to immobilized glycosphingolipids
Yang L.J.-S.; Zeller C.B.; Schnaar R.L.
Pharmacology/Molec. Sciences Dept., Johns Hopkins School of Medicine, 725 N. Wolfe Street,Baltimore, MD 21205 United States
Analytical Biochemistry (ANAL. BIOCHEM.) (United States) 1996, 236/1 (161-167)
CODEN: ANBCA ISSN: 0003-2697
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

...carrier (while immersed) and righted, and adherent cells were quantitated enzymatically or immunochemically using a 96-well plate reader. COS cells transfected with an expression *plasmid* carrying the gene for the rat Kupffer cell lectin (fucose and N-acetylgalactosamine specific) adhered specifically to globotetraosylceramide. Glycolipid- and lectin-specific cell adhesion was readily detected even when COS cells were transfected with a *plasmid* mixture containing 0.5% lectin-carrying *plasmid* and 99.5% irrelevant *plasmid*. This sensitivity will facilitate screening of *plasmid* pools to detect and isolate *plasmids* expressing mammalian lectin genes. To isolate COS cells transiently expressing lectin, glycosphingolipids were adsorbed to carboxylated magnetic polystyrene *microspheres*, which were mixed with the lectin-transfected COS cells. Adherent cells were collected on a fixed magnet and *plasmid* recovered for subsequent amplification.
MEDICAL DESCRIPTORS:
adsorption; animal cell; article; cell isolation; *dna* transfection; immobilization; *lipid* analysis; nonhuman; priority journal; protein expression

7/3,K/22 (Item 5 from file: 73)
DIALOG(R)File 73:EMBASE
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05867427 EMBASE No: 1994284049
Cytotoxic lymphocytes in the treatment and prevention of AIDS
Blanchard T.J.; McAdam K.P.W.J.
Department of Clinical Sciences, London Schl Hygiene and Tropical Med, Keppel St,London WC1E 7HT United Kingdom
Expert Opinion on Therapeutic Patents (EXPERT OPIN. THER. PAT.) (United Kingdom) 1994, 4/9 (1055-1063)
CODEN: EOTPE ISSN: 1354-3776
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH

DRUG DESCRIPTORS:
microsphere; adjuvant--drug development--dv; cd8 antigen--endogenous compound--ec; glycoprotein gp 120; glycoprotein gp 160--drug development --dv; human immunodeficiency virus vaccine--clinical trial--ct...

...therapy--dt; inactivated vaccine--drug development--dv; lipopeptide --drug development--dv; live vaccine--drug development--dv; major histocompatibility antigen class 1--endogenous compound--ec; phosphoryl *lipid* a--drug combination--cb; phosphoryl *lipid* a--drug development--dv ; proteasome--endogenous compound--ec; saponin--drug combination--cb;

saponin--drug development--dv; virus *dna*--pharmaceutics--pr; virus *dna*
--drug development--dv; virus protein--drug development--dv
CAS REGISTRY NO.: 88598-53-2 (phosphoryl *lipid* a); 8047-15-2 (saponin)

7/3,K/23 (Item 6 from file: 73)
DIALOG(R)File 73:EMBASE

05325805 EMBASE No: 1993093890
Liposomes in drug delivery. Clinical, diagnostic and ophthalmic potential
Gregoriadis G.; Florence A.T.
Centre for Drug Delivery Research, School of Pharmacy, University of London, 29-39 Brunswick Square,London WC1N 1AX United Kingdom
Drugs (DRUGS) (New Zealand) 1993, 45/1 (15-28)
CODEN: DRUGA ISSN: 0012-6667
DOCUMENT TYPE: Journal; Review
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

...improve drug effectiveness in therapeutic and preventive medicine have been greatly assisted by parallel developments in molecular and cell biology. These include hybridoma and recombinant *DNA* technology on the one hand and, on the other, the discovery of a number of cell membrane receptors and the understanding of their interaction with...

...in the widest sense include antibodies) bind to their receptors on the surface of cells in a highly specific fashion, whilst liposomes and other colloidal *microspheres* can introduce their drug contents into the interior of cells through endocytosis or other pathways. Alternatively, *microspheres* may be induced to act extracellularly by releasing drug through the action of external stimuli (Roerdink and Kroon 1989). Introduction of drug-containing carriers into...

...in systematic studies on carrier behaviour In vivo and, when possible, its control. Much of the relevant knowledge obtained so far concerns liposomes and other *lipid*-based vesicles (Gregoriadis 1988a, 1992a).
DRUG DESCRIPTORS:
...dt; pilocarpine--pharmaceutics--pr; salbutamol--clinical trial--ct; salbutamol--drug therapy--dt; salbutamol--pharmaceutics--pr; triamcinolone acetonide--pharmaceutics--pr; trifluridine--pharmaceutics--pr; vaccine; amphotericin b *lipid* complex
MEDICAL DESCRIPTORS:
...toxicity--side effect--si; genetic disorder; gram negative infection --drug therapy--dt; human; infection; intravenous drug administration; intravitreal drug administration; kaposi sarcoma--drug therapy--dt; *lipid* bilayer; membrane fluidity; metabolic disorder; metal metabolism; mycosis --drug therapy--dt; nonhuman; oral drug administration; priority journal; review; surface charge; virus keratitis--drug therapy--dt
?ds

Set	Items	Description
S1	2101842	(NUCLEIC (W) ACID) OR (DNA OR RNA) OR (PLASMID?)
S2	38990	(MICROSPHERE?)
S3	821	S1 AND S2
S4	37	S3 AND ((AMPHIPHILIC (W) MOLECULE?) OR LIPID OR POLYLYSINE)
S5	0	S4 AND (GELATIN OR ALGINATE)
S6	0	S4 AND (ANIONIC AND CATIONIC)
S7	23	RD S4 (unique items)
S8	1	S7 AND (COACERVATE?)

```
?s (gene (w) delivery (w) system?)
         1465557  GENE
          273493  DELIVERY
         6125719  SYSTEM?
      S9     855  (GENE (W) DELIVERY (W) SYSTEM?)
?s s1 and s3
         2101842  S1
```

```
             821  S3
     S10     821  S1 AND S3
?s s9 and s10
             855  S9
             821  S10
     S11       2  S9 AND S10
?rd
...completed examining records
     S12       2  RD (unique items)
?t s12/3,k/all
```

12/3,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09708359 98412957
***DNA*-polycation nanospheres as non-viral gene delivery vehicles.**
Leong KW; Mao HQ; Truong-Le VL; Roy K; Walsh SM; August JT
Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD 21205, USA. kleong@bme.jhu.edu
Journal of controlled release (NETHERLANDS) Apr 30 1998, 53 (1-3) p183-93, ISSN 0168-3659 Journal Code: C46
Contract/Grant No.: CA68011, CA, NCI
Languages: ENGLISH
Document type: JOURNAL ARTICLE

***DNA*-polycation nanospheres as non-viral gene delivery vehicles.**
Nanospheres synthesized by salt-induced complex coacervation of cDNA and polycations such as gelatin and chitosan were evaluated as gene delivery vehicles. *DNA*-nanospheres in the size range of 200-750 nm could transfect a variety of cell lines. Although the transfection efficiency of the nanospheres was typically...

...phosphate controls in cell culture, the beta-gal expression in muscle of BALB/c mice was higher and more sustained than that achieved by naked *DNA* and lipofectamine complexes. This *gene* *delivery* *system* has several attractive features: (1) ligands can be conjugated to the nanosphere for targeting or stimulating receptor-mediated endocytosis; (2) lysosomolytic agents can be incorporated to reduce degradation of the *DNA* in the endosomal and lysosomal compartments; (3) other bioactive agents or multiple *plasmids* can be co-encapsulated; (4) bioavailability of the *DNA* can be improved because of protection from serum nuclease degradation by the polymeric matrix; (5) the nanosphere can be lyophilized for storage without loss of...
Descriptors: *DNA*--Administration and Dosage--AD; *Genetic Vectors; *Transfection; Biological Availability; Cell Line; *DNA*--Pharmacokinetics --PK; Mice; Mice, Inbred BALB C; *Microspheres*; Particle Size; Polyamines
Chemical Name: polycations; (Genetic Vectors; (Polyamines; (*DNA*

12/3,K/2 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

07936553 EMBASE No: 1999410423
In vitro evaluation of biodegradable *microspheres* as a vector for *gene* *delivery* *systems*
Ando S.; Putnam D.; Langer R.
S. Ando, Daiichi Pharmaceutical Co. Ltd., Tokyo 1348630 Japan
Proceedings of the Controlled Release Society (PROC. CONTROL. RELEASE SOC.) (United States) 1999, -/26 (689-690)
CODEN: 58GMA ISSN: 1022-0178
DOCUMENT TYPE: Journal; Conference Paper
LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 5

In vitro evaluation of biodegradable *microspheres* as a vector for *gene* *delivery* *systems*

DRUG DESCRIPTORS:
**microsphere*
plasmid *DNA*
MEDICAL DESCRIPTORS:
gene therapy; encapsulation; particle size; *DNA* structure; conference paper
?ds

```
Set     Items   Description
S1    2101842   (NUCLEIC (W) ACID) OR (DNA OR RNA) OR (PLASMID?)
S2      38990   (MICROSPHERE?)
S3        821   S1 AND S2
S4         37   S3 AND ((AMPHIPHILIC (W) MOLECULE?) OR LIPID OR POLYLYSINE)
S5          0   S4 AND (GELATIN OR ALGINATE)
S6          0   S4 AND (ANIONIC AND CATIONIC)
S7         23   RD S4 (unique items)
S8          1   S7 AND (COACERVATE?)
S9        855   (GENE (W) DELIVERY (W) SYSTEM?)
S10       821   S1 AND S3
S11         2   S9 AND S10
S12         2   RD (unique items)
?s s9 and (s1 and coacervate?)
             855  S9
         2101842  S1
             561  COACERVATE?
     S13       0  S9 AND (S1 AND COACERVATE?)
?s (retrovirus or adenovirus or AAV or HSV-1)
           29559  RETROVIRUS
           46231  ADENOVIRUS
            2023  AAV
              97  HSV-1
     S14   76373  (RETROVIRUS OR ADENOVIRUS OR AAV OR HSV-1)
?s s14 and s2 and s9
           76373  S14
           38990  S2
             855  S9
     S15       0  S14 AND S2 AND S9
?ds

Set     Items   Description
S1    2101842   (NUCLEIC (W) ACID) OR (DNA OR RNA) OR (PLASMID?)
S2      38990   (MICROSPHERE?)
S3        821   S1 AND S2
S4         37   S3 AND ((AMPHIPHILIC (W) MOLECULE?) OR LIPID OR POLYLYSINE)
S5          0   S4 AND (GELATIN OR ALGINATE)
S6          0   S4 AND (ANIONIC AND CATIONIC)
S7         23   RD S4 (unique items)
S8          1   S7 AND (COACERVATE?)
S9        855   (GENE (W) DELIVERY (W) SYSTEM?)
S10       821   S1 AND S3
S11         2   S9 AND S10
S12         2   RD (unique items)
S13         0   S9 AND (S1 AND COACERVATE?)
S14     76373   (RETROVIRUS OR ADENOVIRUS OR AAV OR HSV-1)
S15         0   S14 AND S2 AND S9
?logoff
       14jun00 15:48:26 User259876 Session D72.2
            $3.47    1.085 DialUnits File155
               $2.80  14 Type(s) in Format  3
            $2.80  14 Types
     $6.27  Estimated cost File155
           $55.55    9.920 DialUnits File5
               $6.60  4 Type(s) in Format  3
            $6.60  4 Types
```

```
    $62.15  Estimated cost File5
            $9.45    1.111 DialUnits File73
               $2.35  1 Type(s) in Format  2
              $16.45  7 Type(s) in Format  3
            $18.80  8 Types
    $28.25  Estimated cost File73
            OneSearch, 3 files, 12.116 DialUnits FileOS
     $1.00  TYMNET
    $97.67  Estimated cost this search
    $98.50  Estimated total session cost  12.339 DialUnits


### Status: Signed Off. (21 minutes)
```